



CASE 4-30598/A/SYS 2068

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October 10, 2000
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF

Art Unit: 1635

YOUNG ET AL.

Examiner: Schmidt, M.

APPLICATION NO: 09/237,291

FILED: JANUARY 25, 1999

FOR: EXPANDED AND GENETICALLY MODIFIED POPULATIONS OF
HUMAN HEMATOPOIETIC STEM CELLS

#11
JRP
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OCT 17 2000

Commissioner for Patents
Washington, D.C. 20231

RESPONSE TO OFFICE ACTION

Sir:

This communication responds to the Office Action mailed on April 10, 2000. A Petition for a Three Month Extension of Time is submitted herewith.

REMARKS

The Examiner rejected all of the pending claims under 35 U.S.C. §103 as unpatentable over the references cited in the Office Action. The Examiner asserted that U.S. Patents 5,665,557, 5,861,315, 5,744,361, 5,635,387, and 5,599,703, as well as the articles by Ku, et al., Kobayashi, et al., Ramsfjell, et al., Ohmizono, et al., Szilvassy, et al., Escary, et al., and Bodine, et al. all teach methods for isolating and culturing hematopoietic stem cells (hereinafter "HSCs") via the addition of one or more of mpl-ligand, flt3 ligand, c-kit ligand, IL3, LIF, TPO, or IL6. The Examiner further asserted that it would have been prima facie obvious to genetically modify the cultured cells via a retroviral vector since Tushinski, et al., Fletcher, et al., Bello-Fernandez, et al., and Hatzfeld, et al. all teach methods of retroviral-mediated transfer of genes into HSCs. Finally, the Examiner asserted that it would have been prima facie obvious to use fibronectin to increase the transduction efficiency of retrovirally-mediated gene transfer into HSCs as taught by the two Hanenberg, et al. references.